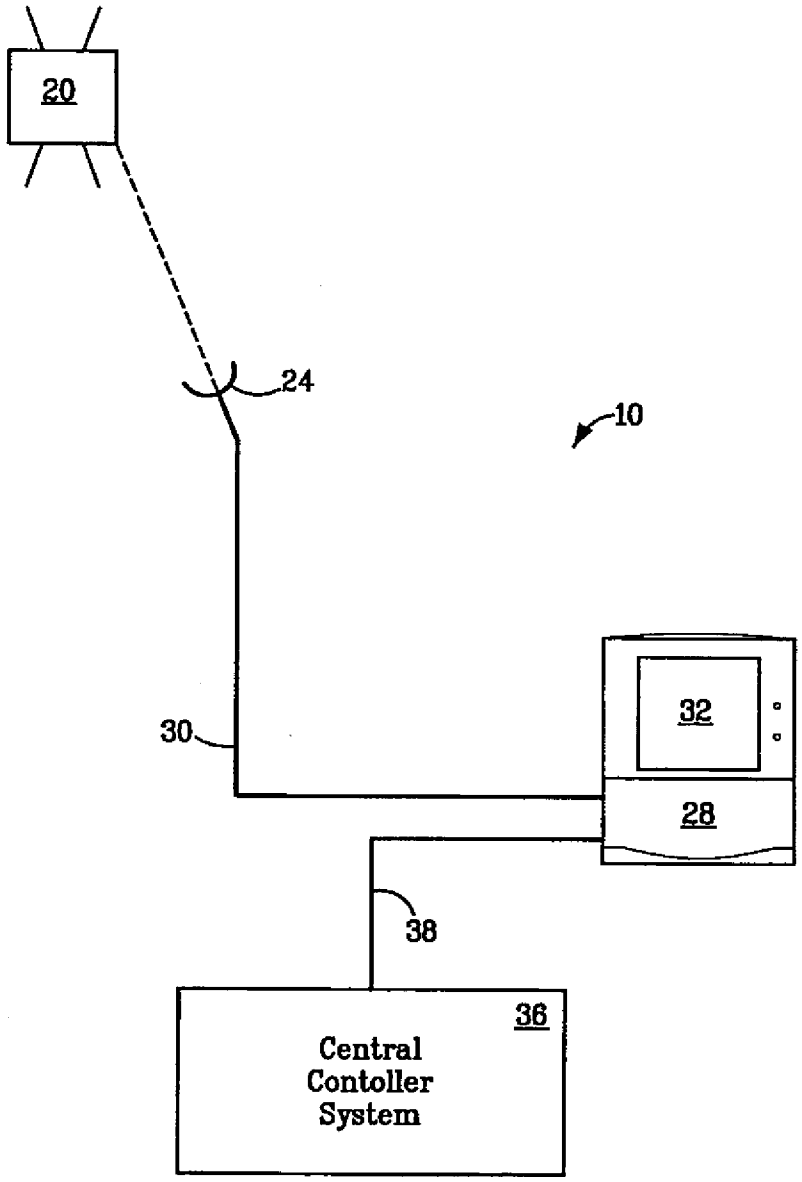


FIG. 1

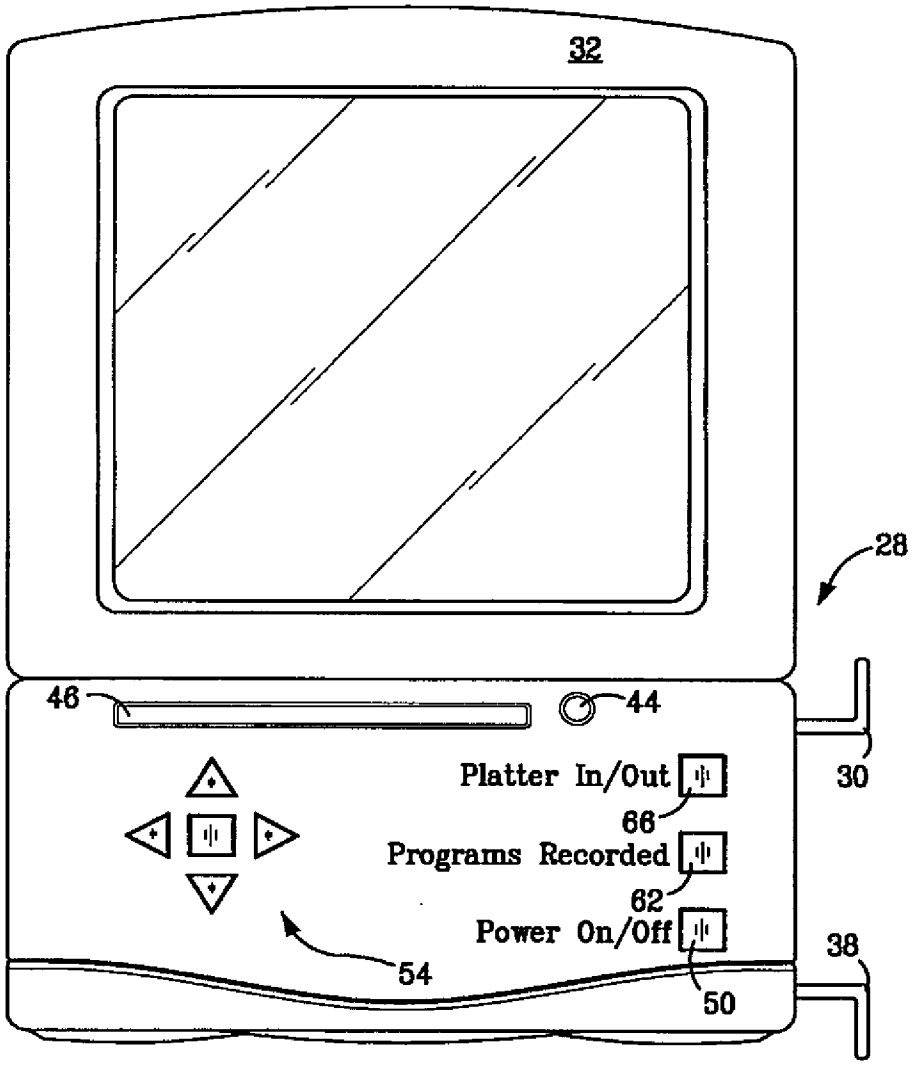

32
28
46
44
30
Platter In/Out
66
Programs Recorded
62
Power On/Off
38
54
50

FIG. 2

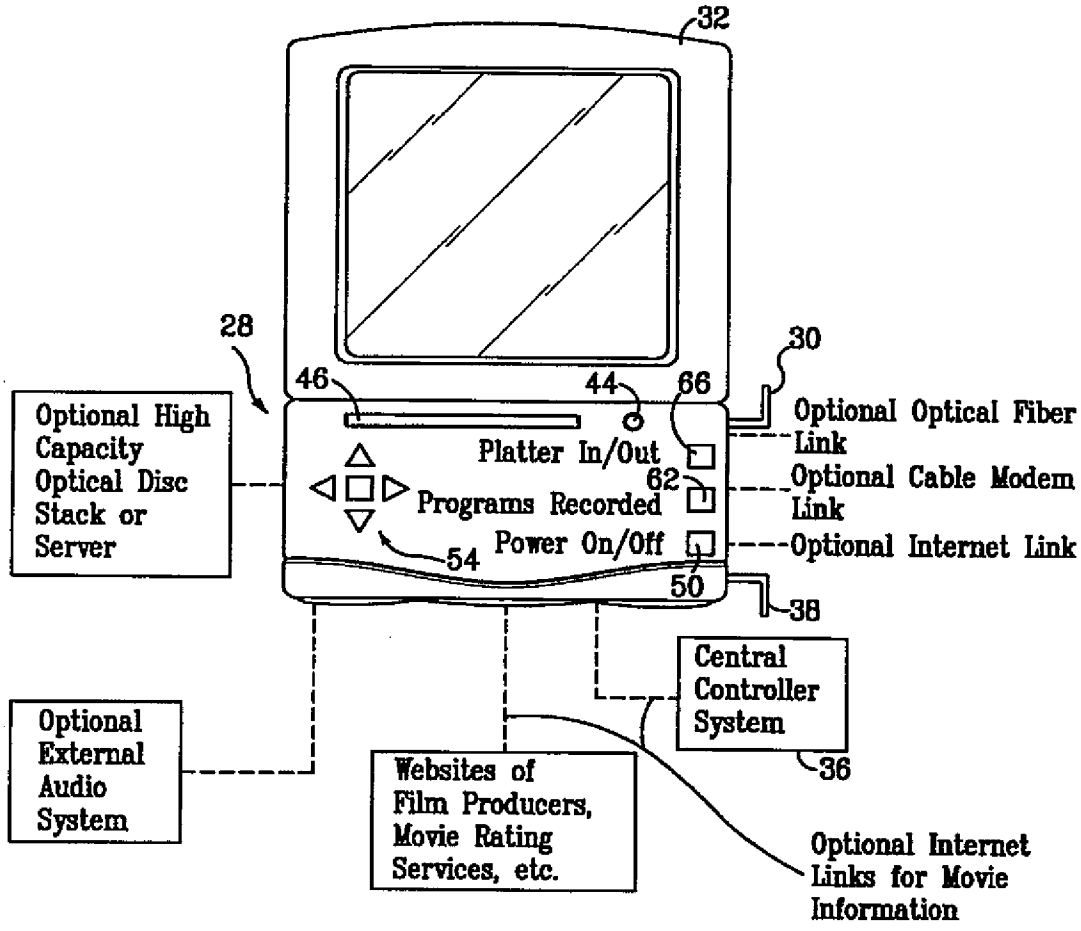

32
28
30
46
44
66
Optional High Capacity Optical Disc Stack or Server
Platter In/Out
Optional Optical Fiber Link
62
Programs Recorded
Optional Cable Modem Link
Power On/Off
Optional Internet Link
54
50
38
Central Controller System
36
Optional External Audio System
Websites of Film Producers, Movie Rating Services, etc.
Optional Internet Links for Movie Information

FIG. 2A

FIG. 3

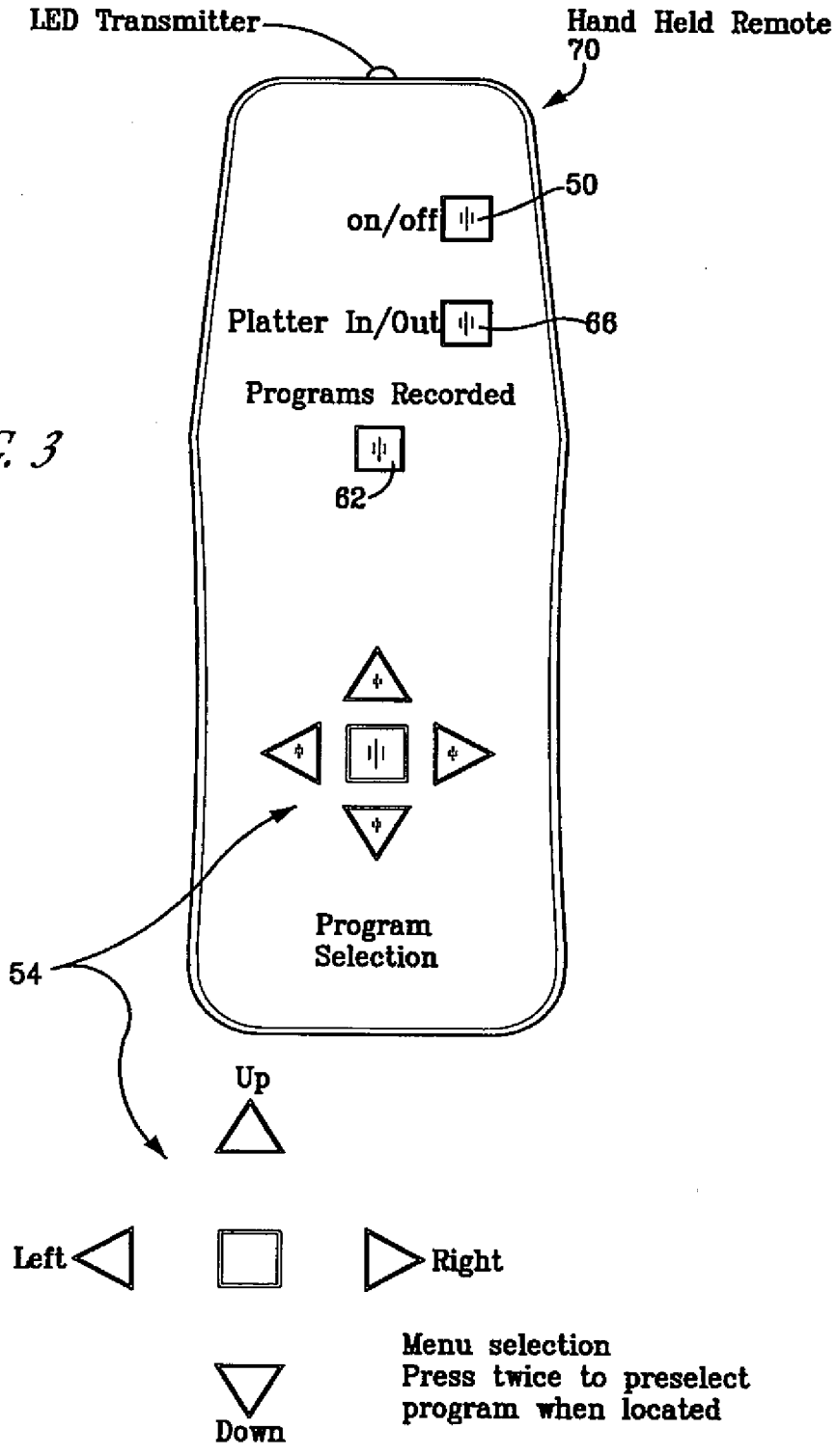
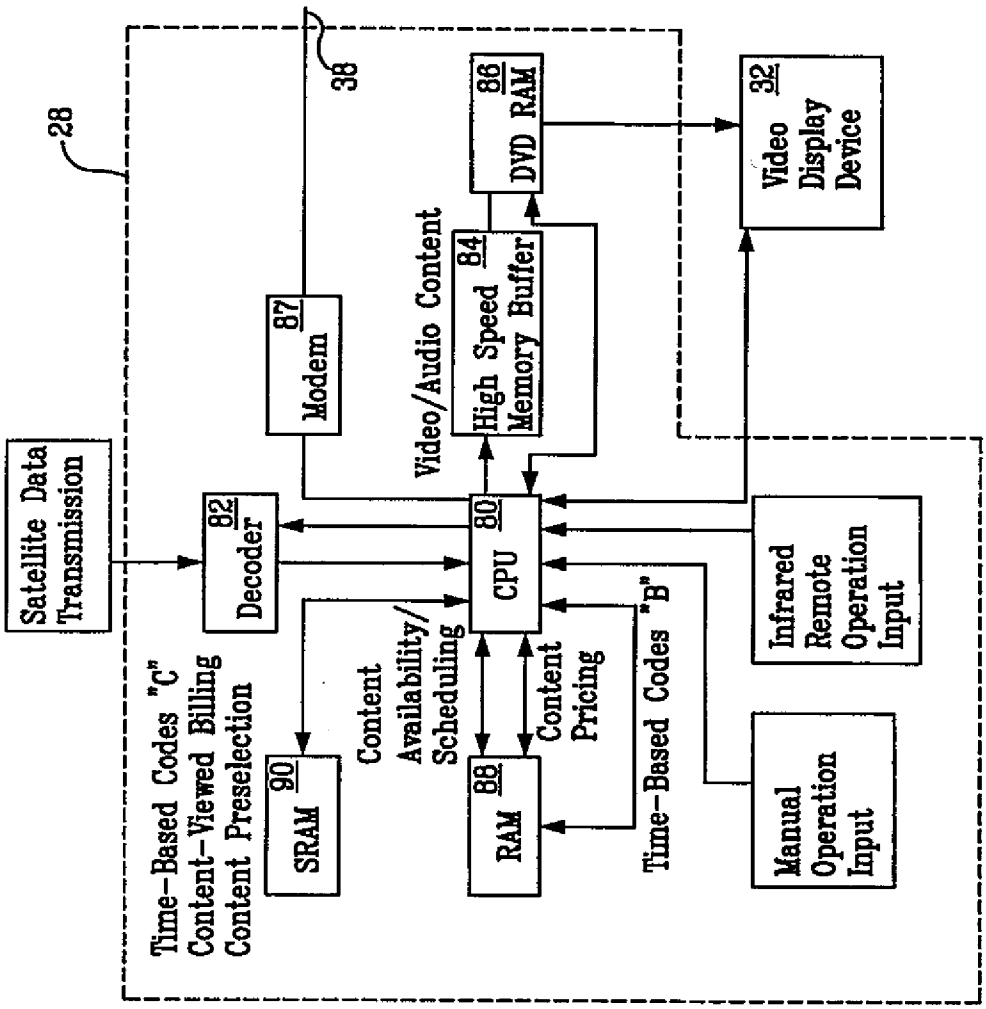

LED Transmitter
Hand Held Remote
70
on/off
50
Platter In/Out
66
Programs Recorded
62
54
Program
Selection
Up
Left
Right
Down
Menu selection
Press twice to preselect
program when located

FIG. 4


28
38
Satellite Data Transmission
Modem
87
Decoder
82
CPU
80
High Speed Memory Buffer
84
Video/Audio Content
DVD RAM
86
Video Display Device
32
Infrared Remote Operation Input
Manual Operation Input
SRAM
90
RAM
88
Content Availability/ Scheduling
Content Pricing
Time-Based Codes "B"
Time-Based Codes "C" Content-Viewed Billing Content Preselection

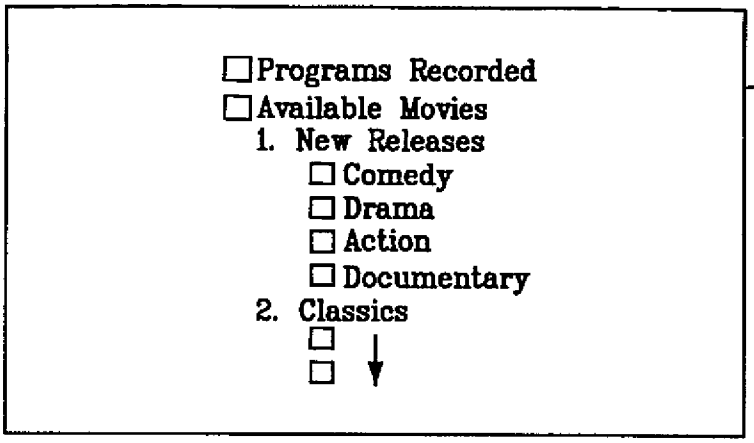


FIG. 5

SLOT	PROGRAM
1	Blank Disc
2	"Return of the Jedi"
3	No Disc
4	"To Sir with Love"
5	Blank Disc
6	"Sleepless in Seattle"
7	"Dave"
8	Blank Disc
9	No Disc
10	"True Grit"

110

FIG. 6

New Releases/Comedy (20 Titles)			
1	Title #1	129 mins.	PG
2	Title #2	98 mins.	R
3	Title #3	102 mins.	PG-13
4	Title #4	108 mins.	PG
5			
6			
7			
8			

120

FIG. 7

LEVEL 1 TIME-BASED SECURITY CODES

A	B	C
One 32 bit code in each movie header X 12 months X 100 years = 1200 32 bit codes.	One 32 bit code for each month chosen at the beginning of each month and transmitted by DBS.	One 32 bit code delivered each month by phone/ modem with billing query from central controller system. C provided only when customer is in good standing.

FIG. 8

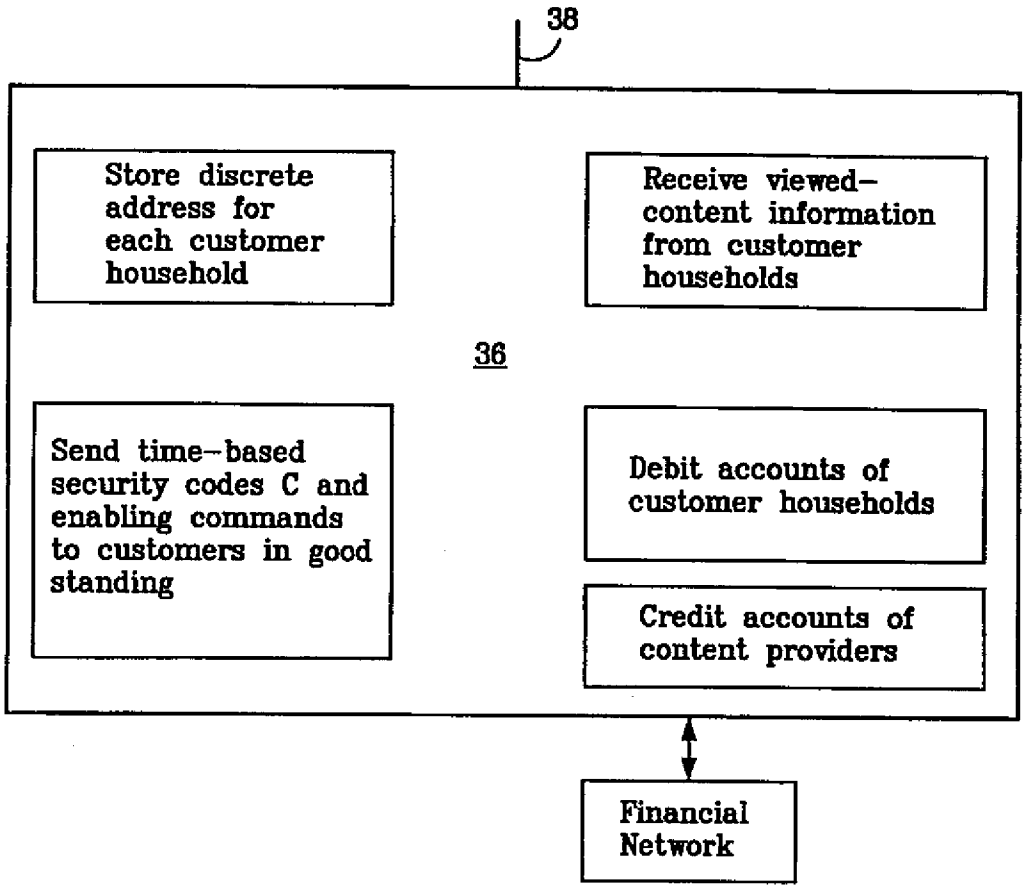

38
Store discrete address for each customer household
Receive viewed-content information from customer households
36
Send time-based security codes C and enabling commands to customers in good standing
Debit accounts of customer households
Credit accounts of content providers
Financial Network

FIG. 9

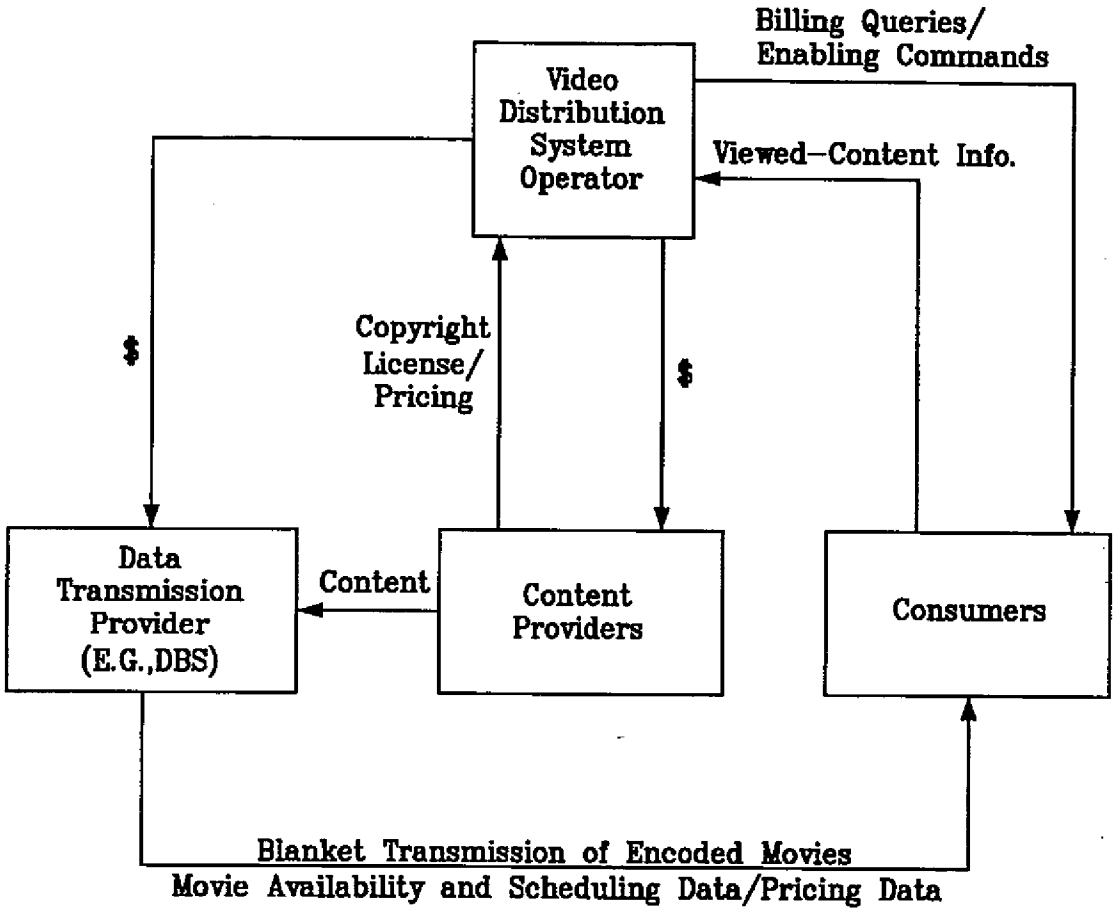
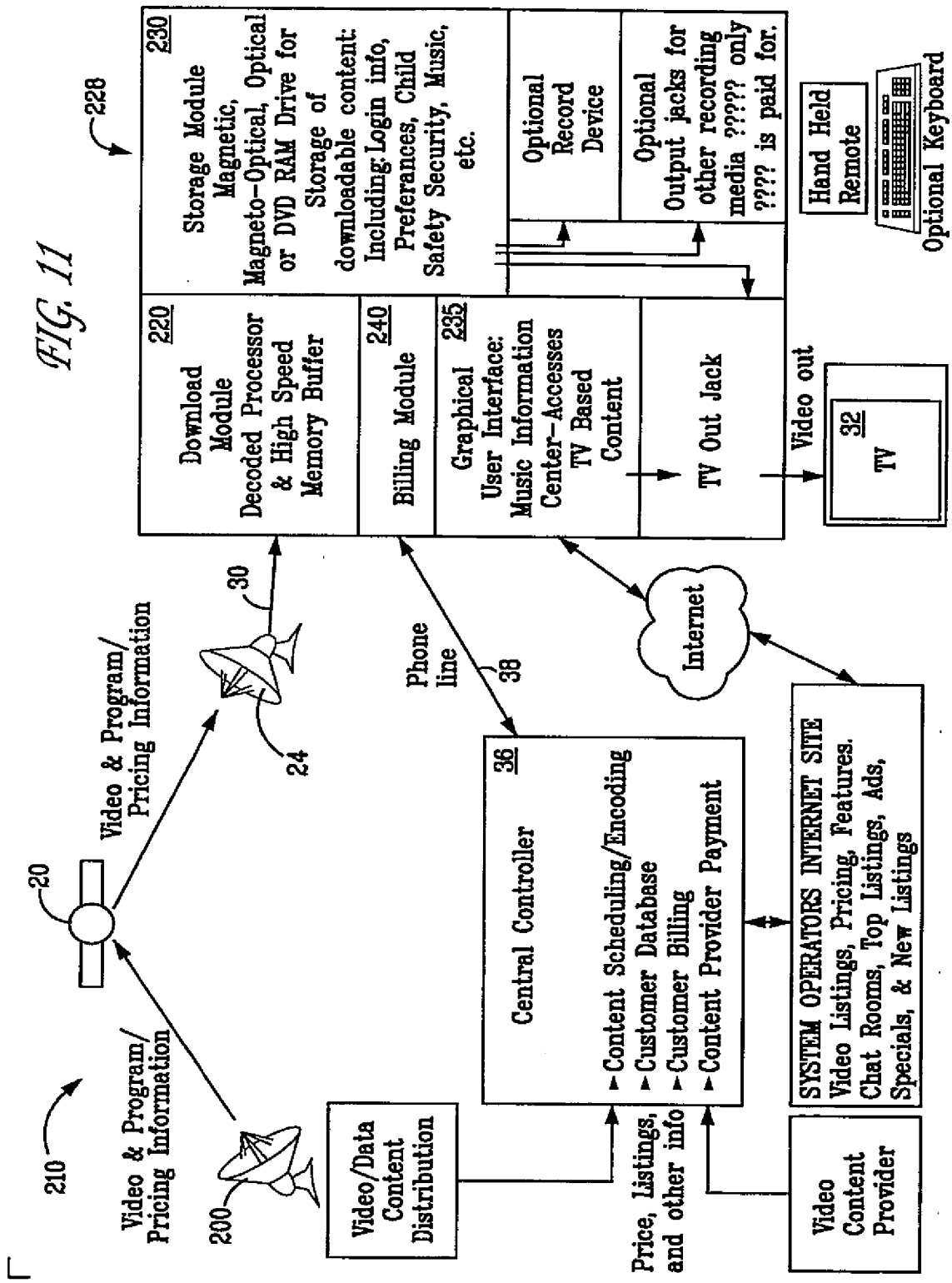

Billing Queries/
Enabling Commands
Video
Distribution
System
Operator
Viewed–Content Info.
$
Copyright
License/
Pricing
$
Data
Transmission
Provider
(E.G.,DBS)
Content
Content
Providers
Consumers
Blanket Transmission of Encoded Movies
Movie Availability and Scheduling Data/Pricing Data

FIG. 10

FIG. 11


228
230
Storage Module Magnetic, Magneto-Optical, Optical or DVD RAM Drive for Storage of downloadable content: Including: Login info, Preferances, Child Safety Security, Music, etc.
Optional Record Device
Optional Output jacks for other recording media ???? only ???? is paid for.
Hand Held Remote
Optional Keyboard
220
Download Module Decoded Processor & High Speed Memory Buffer
240
Billing Module
235
Graphical User Interface: Music Information Center-Accesses TV Based Content
TV Out Jack
Video out
32
TV
30
24
Video & Program/ Pricing Information
Phone line
38
Internet
20
210
Video & Program/ Pricing Information
200
Video/Data Content Distribution
36
Central Controller
Content Scheduling/Encoding
Customer Database
Customer Billing
Content Provider Payment
Price, Listings, and other info
SYSTEM OPERATORS INTERNET SITE
Video Listings, Pricing, Features. Chat Rooms, Top Listings, Ads, Specials, & New Listings
Video Content Provider

Step	Mode Name	Description	Hardware Involved
	Account setup	Happens when customer buys and hooks up this user station	
1	Selection	Customer looks at recently updated "catalog" of available movie selections on his TV using the graphical user interface. Use remote to page through information	User station, remote, customer TV. stored catalog
2	Ordering	Customer uses user station, remote and TV screen to order	User station, remote, customer TV
3	Downloading	Movies are downloaded during transmission hours as encrypted, compressed files through customer's satellite dish to hard disk in user station	User station, satellite receiver
4	Viewing	Customer plays movie directly from hard drive with decryption/decompressing in real time.	User station, customer TV and speakers
5	Billing	Customer's account billed later by modem or Internet communication with central controller	User station
6	Optional "Library" Movie Delivery	Full-quality movie on selected medium (e.g. DVD) that can be played on any DVD player is burned with watermark.	User station, DVD burner

FIG. 12

Docket No.: **OO-0140
App No.: 09/675,025
Office Action Dated: January 21, 2009
Replacement Sheet 11 of 19

SELECT MOVIE TYPE PREFERENCES	
Action	Documentaries
Romantic Comedy	Foreign Language
Science Fiction	Musicals
Combat	Westerns
Animated	Political
Family (G)	Suspense

FIG. 13

SECOND LEVEL MOVIE PREFERENCES			
Favorite Movie Stars (Male)	Favorite Movie Stars (Female)	Favorite Directors	Preferred Rating(s)
Mel Gibson Tom Hanks ↓	Julia Roberts Meg Ryan ↓	George Lucas John Doe ↓	G PG PG–13 R X

FIG. 14

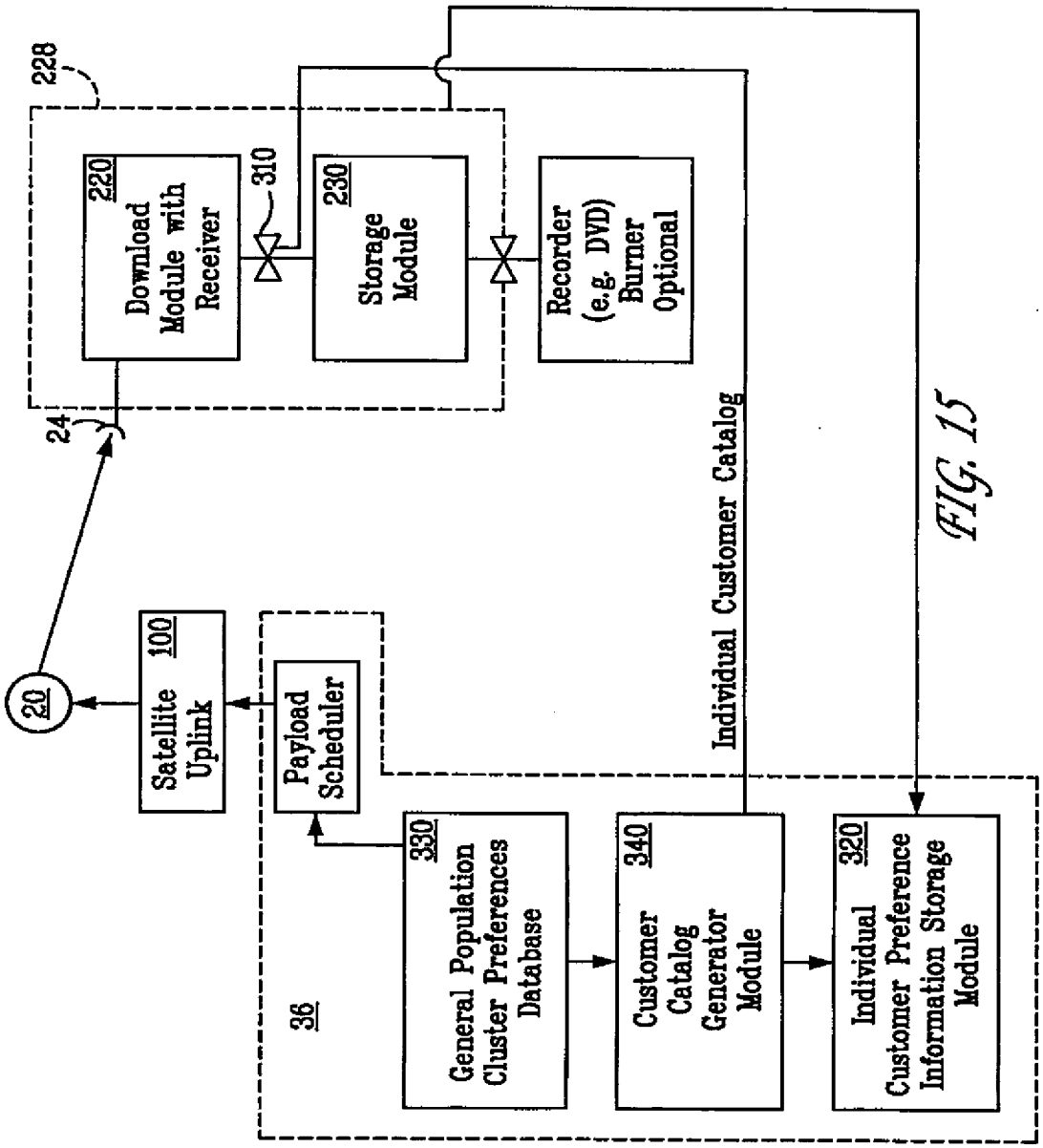

228
220
Download Module with Receiver
310
230
Storage Module
Recorder (e.g. DVD) Burner Optional
24
20
100
Satellite Uplink
Payload Scheduler
Individual Customer Catalog
330
General Population Cluster Preferences Database
340
Customer Catalog Generator Module
320
Individual Customer Preference Information Storage Module
36

FIG. 15

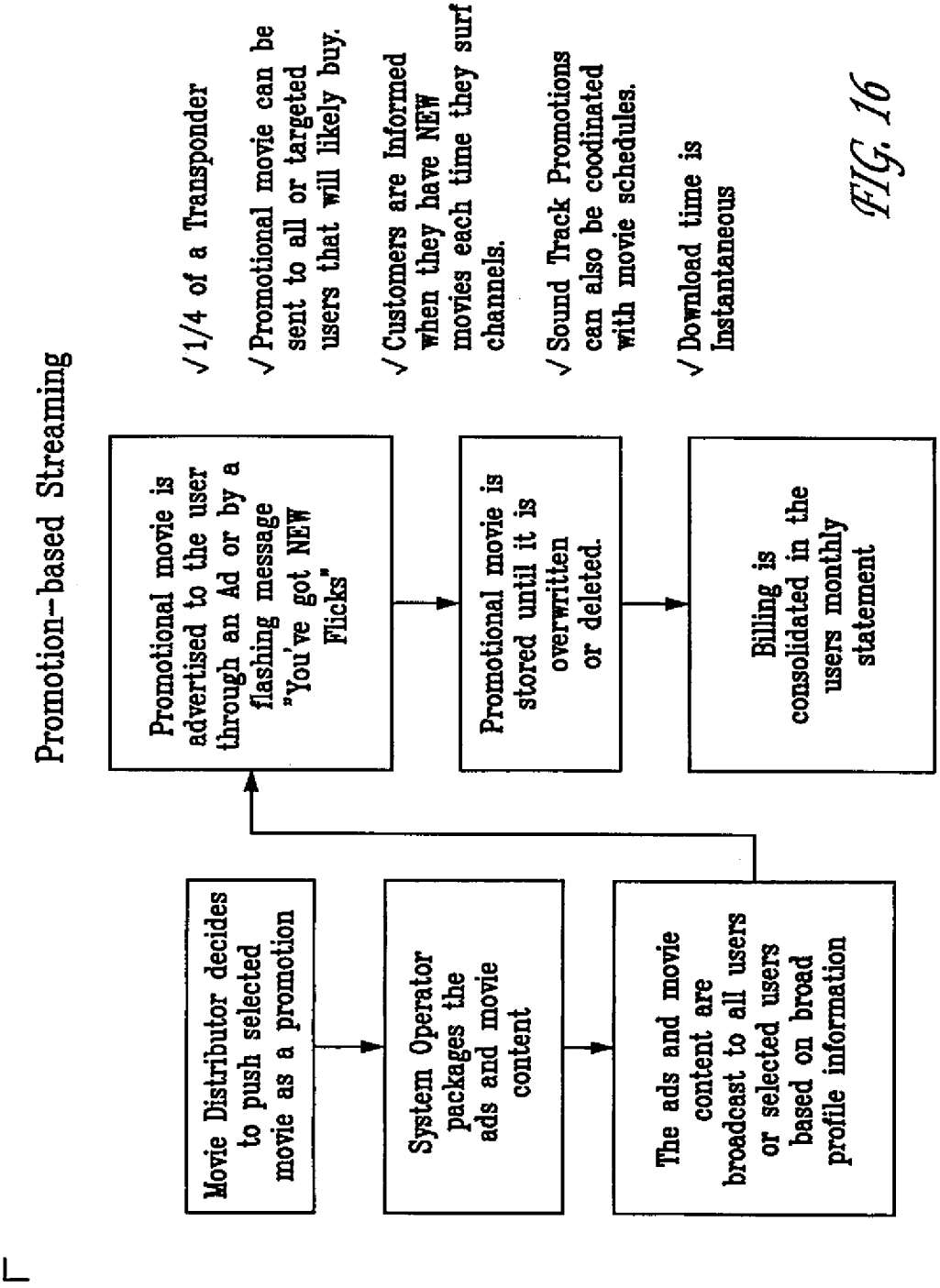

Promotion-based Streaming
Movie Distributor decides to push selected movie as a promotion
System Operator packages the ads and movie content
The ads and movie content are broadcast to all users or selected users based on broad profile information
Promotional movie is advertised to the user through an Ad or by a flashing message "You've got NEW Flicks"
Promotional movie is stored until it is overwritten or deleted.
Billing is consolidated in the users monthly statement
√ 1/4 of a Transponder
√ Promotional movie can be sent to all or targeted users that will likely buy.
√ Customers are informed when they have NEW movies each time they surf channels.
√ Sound Track Promotions can also be coodinated with movie schedules.
√ Download time is Instantaneous

FIG. 16

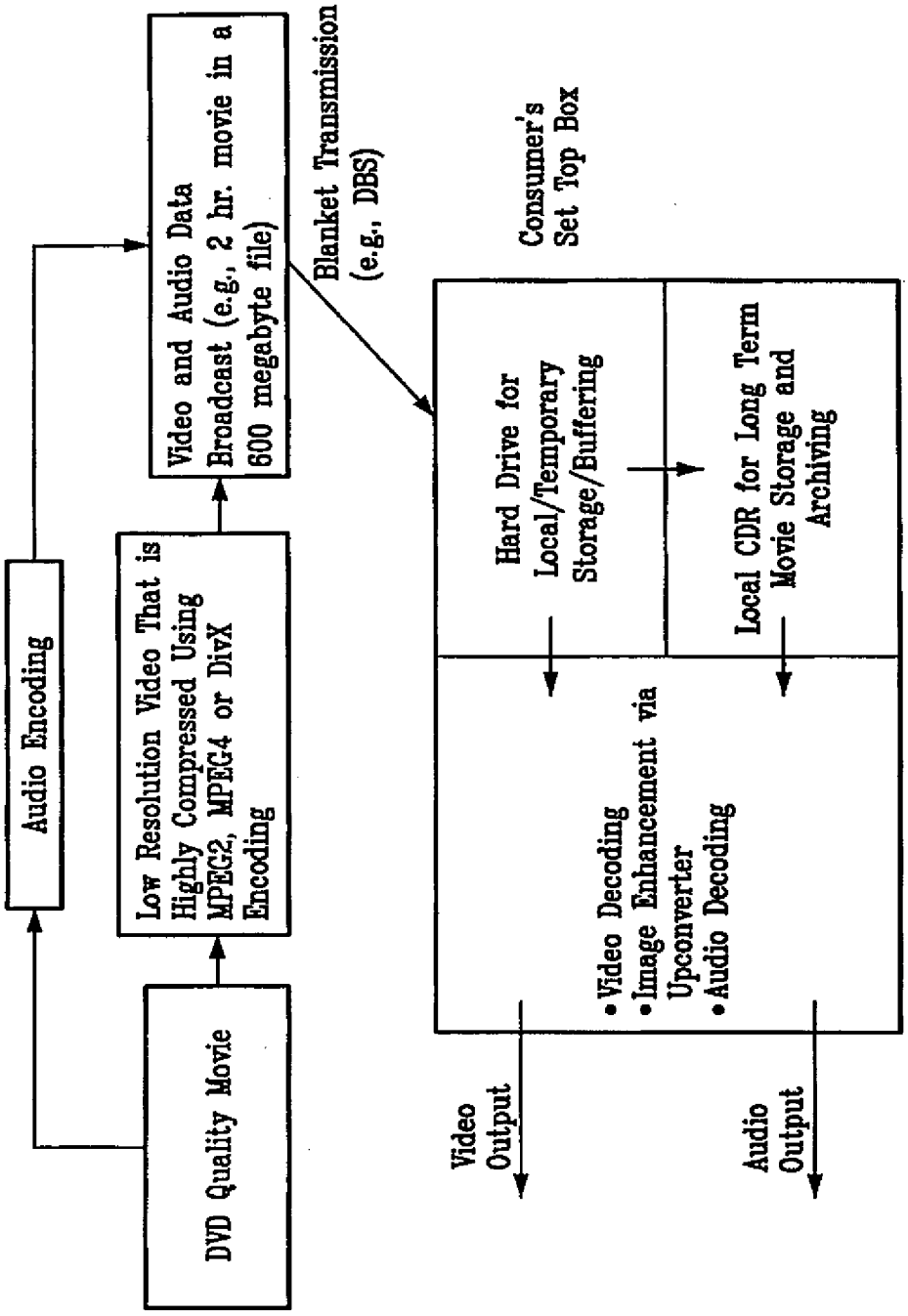

DVD Quality Movie
Audio Encoding
Low Resolution Video That is Highly Compressed Using MPEG2, MPEG4 or DivX Encoding
Video and Audio Data Broadcast (e.g., 2 hr. movie in a 600 megabyte file)
Blanket Transmission (e.g., DBS)
Consumer's Set Top Box
Hard Drive for Local/Temporary Storage/Buffering
Local CDR for Long Term Movie Storage and Archiving
• Video Decoding
• Image Enhancement via Upconverter
• Audio Decoding
Video Output
Audio Output

FIG. 17

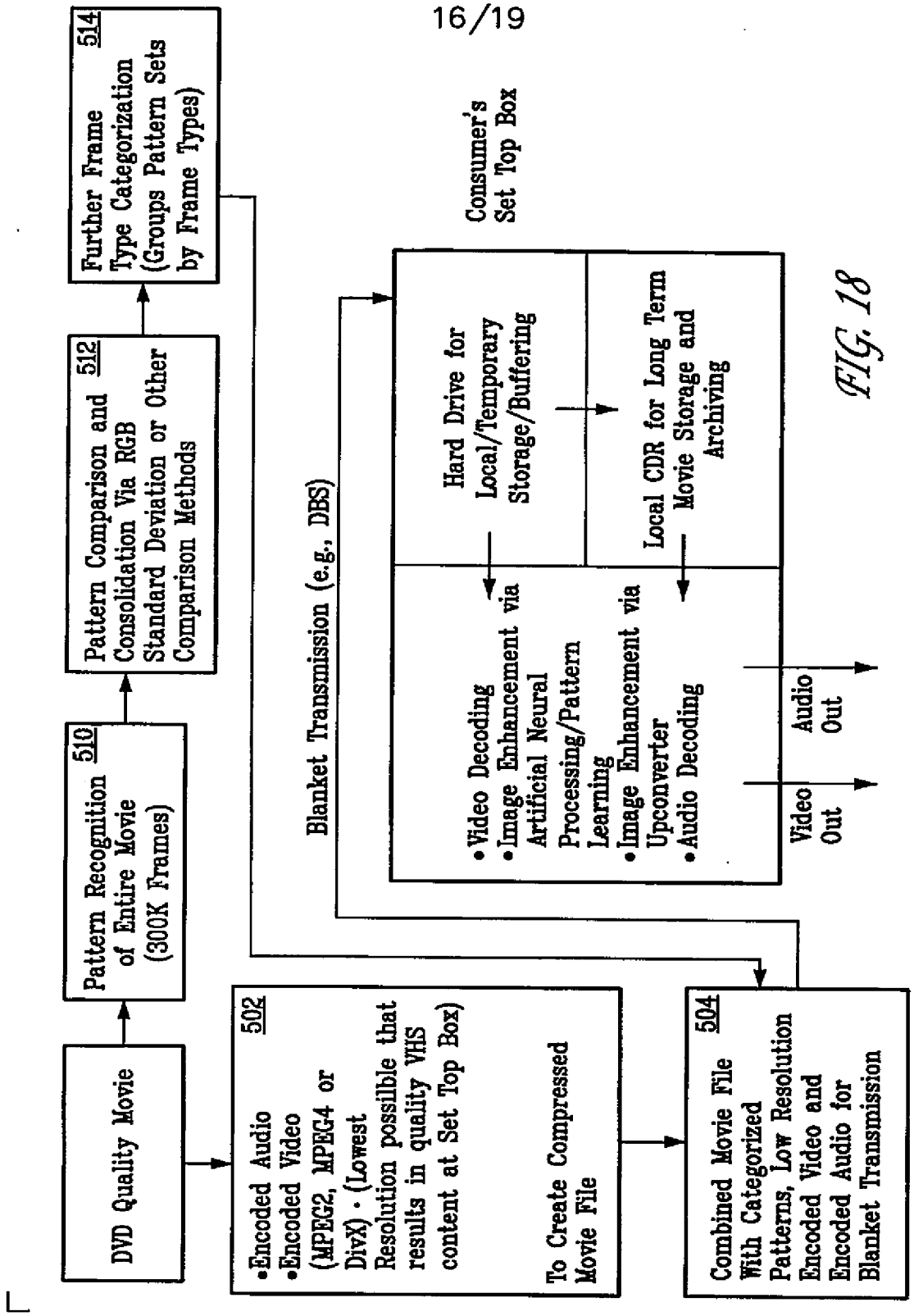

DVD Quality Movie
Pattern Recognition of Entire Movie (300K Frames) 510
Pattern Comparison and Consolidation Via RGB Standard Deviation or Other Comparison Methods 512
Further Frame Type Categorization (Groups Pattern Sets by Frame Types) 514
•Encoded Audio
•Encoded Video (MPEG2, MPEG4 or DivX) - (Lowest Resolution possible that results in quality VHS content at Set Top Box)
To Create Compressed Movie File
502
Combined Movie File With Categorized Patterns, Low Resolution Encoded Video and Encoded Audio for Blanket Transmission
504
Blanket Transmission (e.g., DBS)
Consumer's Set Top Box
Hard Drive for Local/Temporary Storage/Buffering
Local CDR for Long Term Movie Storage and Archiving
•Video Decoding
•Image Enhancement via Artificial Neural Processing/Pattern Learning
•Image Enhancement via Upconverter
•Audio Decoding
Video Out
Audio Out

FIG. 18

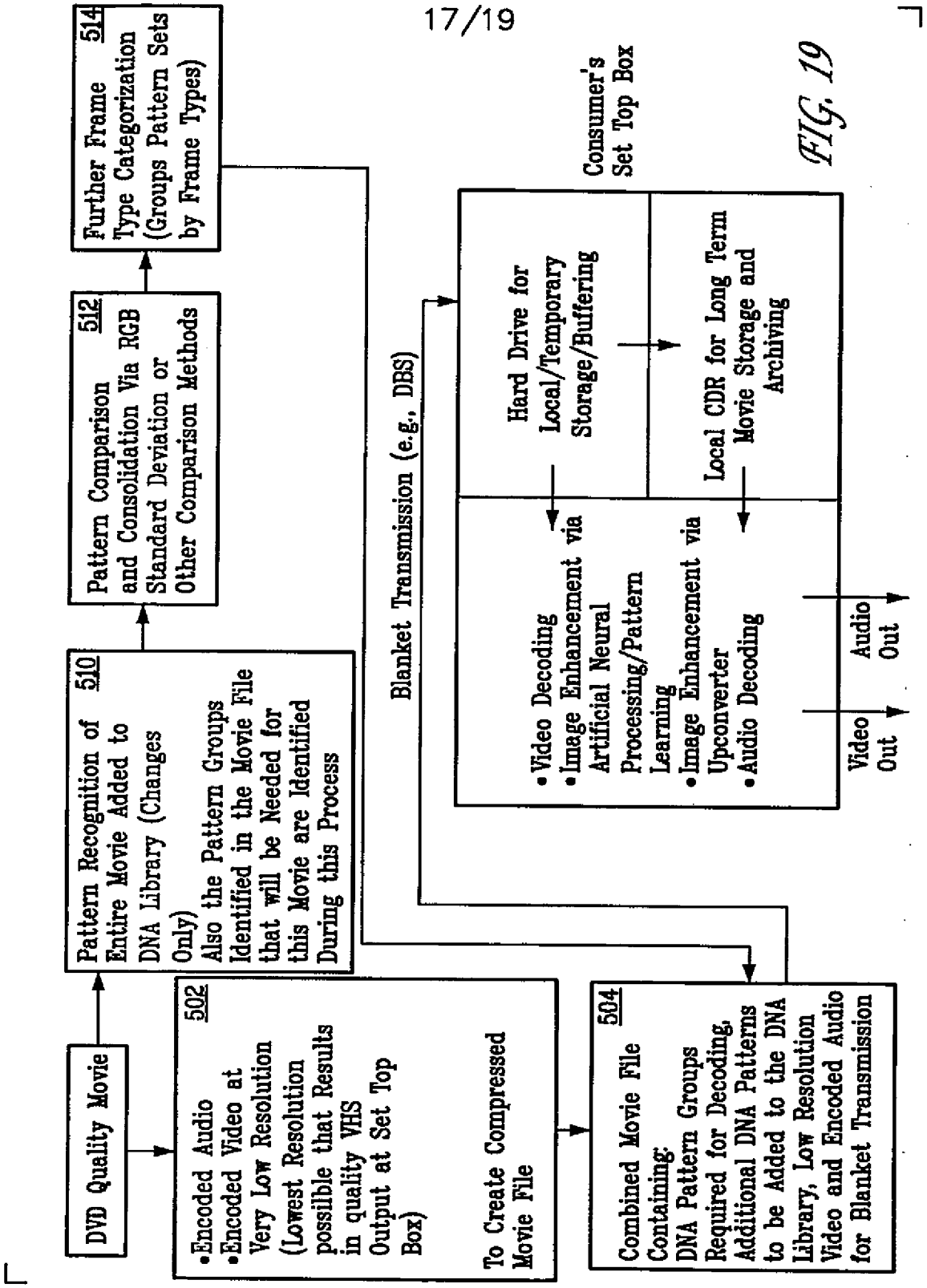

DVD Quality Movie
502
•Encoded Audio
•Encoded Video at Very Low Resolution (Lowest Resolution possible that Results in quality VHS Output at Set Top Box)
To Create Compressed Movie File
Pattern Recognition of Entire Movie Added to DNA Library (Changes Only)
Also the Pattern Groups Identified in the Movie File that will be Needed for this Movie are Identified During this Process
510
Pattern Comparison and Consolidation Via RGB Standard Deviation or Other Comparison Methods
512
Further Frame Type Categorization (Groups Pattern Sets by Frame Types)
514
504
Combined Movie File Containing:
DNA Pattern Groups Required for Decoding,
Additional DNA Patterns to be Added to the DNA Library, Low Resolution Video and Encoded Audio for Blanket Transmission
Blanket Transmission (e.g., DBS)
Consumer's Set Top Box
Hard Drive for Local/Temporary Storage/Buffering
Local CDR for Long Term Movie Storage and Archiving
•Video Decoding
•Image Enhancement via Artificial Neural Processing/Pattern Learning
•Image Enhancement via Upconverter
•Audio Decoding
Video Out
Audio Out

FIG. 19

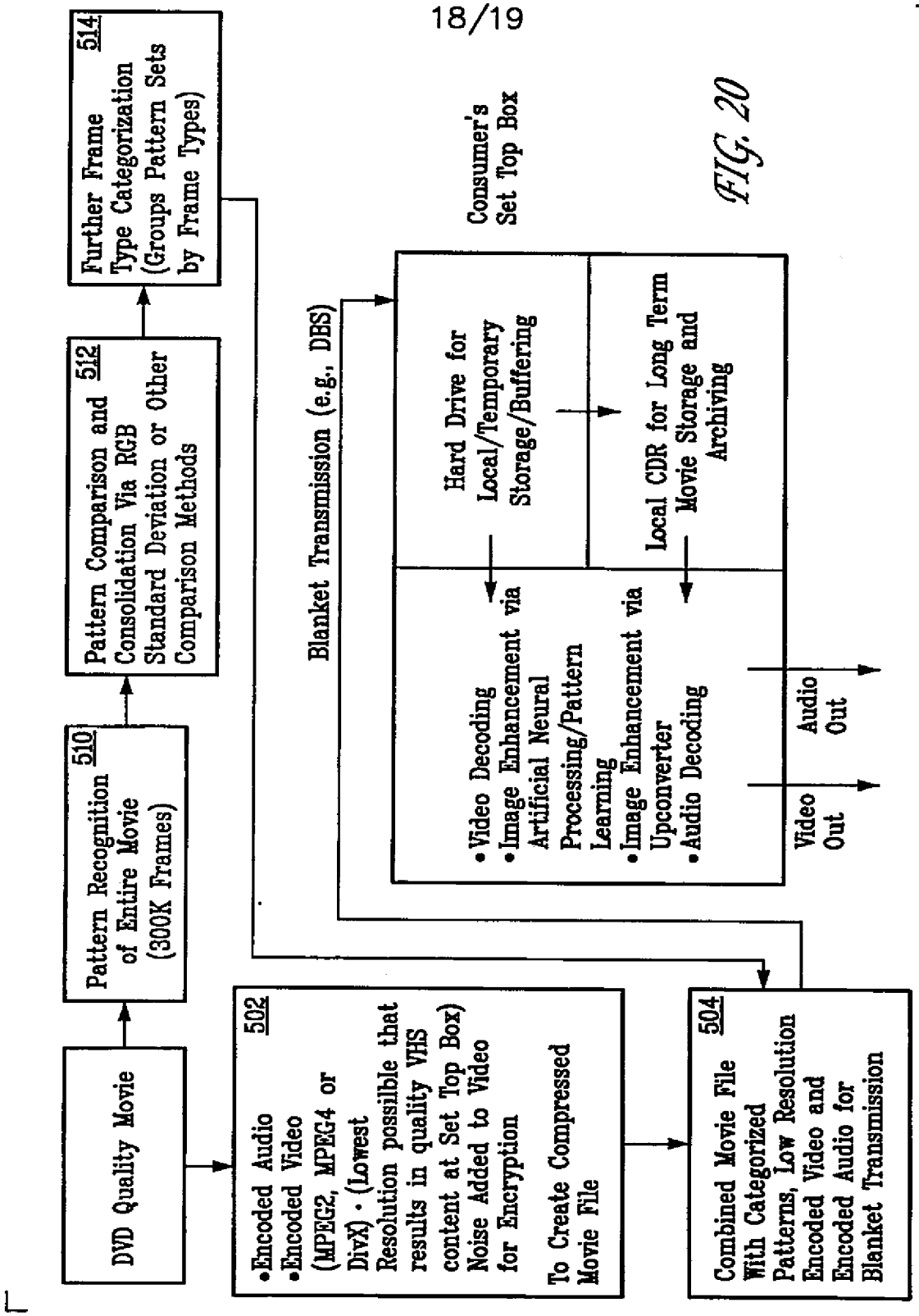

DVD Quality Movie
Pattern Recognition of Entire Movie (300K Frames) 510
Pattern Comparison and Consolidation Via RGB Standard Deviation or Other Comparison Methods 512
Further Frame Type Categorization (Groups Pattern Sets by Frame Types) 514
502
•Encoded Audio
•Encoded Video (MPEG2, MPEG4 or DivX) - (Lowest Resolution possible that results in quality VHS content at Set Top Box) Noise Added to Video for Encryption
To Create Compressed Movie File
504
Combined Movie File With Categorized Patterns, Low Resolution Encoded Video and Encoded Audio for Blanket Transmission
Blanket Transmission (e.g., DBS)
Consumer's Set Top Box
Hard Drive for Local/Temporary Storage/Buffering
Local CDR for Long Term Movie Storage and Archiving
•Video Decoding
•Image Enhancement via Artificial Neural Processing/Pattern Learning
•Image Enhancement via Upconverter
•Audio Decoding
Video Out
Audio Out

FIG. 20

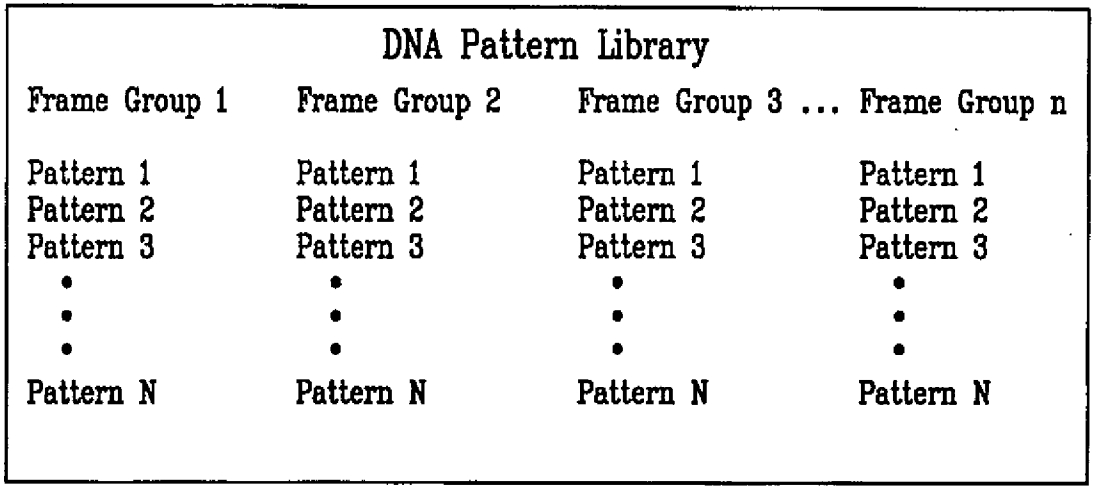


FIG. 21

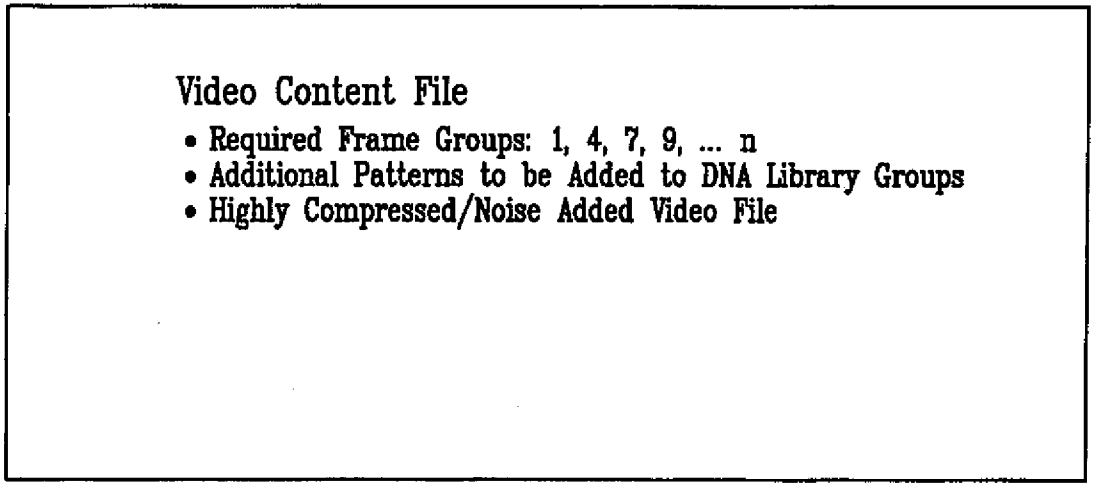


FIG. 22

Docket No.: **OO-0140
App No.: 09/675,025
Office Action Dated: January 21, 2009
Replacement Sheet 19 of 19